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GOVERNMENT OF INDIA

TARIFF COMMISSION

REPORT

ON THE

GRANT OF PROTECTION AND/OR ASSISTANCE

TO THE

ISONICOTINIC ACID HYDRAZIDE (ISONIAZID) INDUSTRY

BOMBAY

1955

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GOVERNMENT OF INDIA

MINISTRY OF HEAVY INDUSTRIES

RESOLUTION

TARIFFS

New Delhi, the 8th December 1956

No. 2(2)-T.B./55.—The Tariff Commission has submitted a Report on the grant of protection and/or assistance to the Isonicotinic Acid Hydrazide (Isoniazid) (INH) Industry. They have observed that the Isonicotinic Acid Hydrazide (INH) Industry is and will for some time to come be dependent on imported raw materials, for which the prices charged are disproportionately high. The Commission have not recommended that the industry should be protected by higher tariffs as they do not consider it desirable that the cost of a life-saving drug should be raised. They have, however, observed that the industry can apply for a review of its case if there is a decline in the price of gamma picoline in the future.

2. The Government of India have given their careful consideration to this recommendation. While they agree that the industry need not be protected by higher tariff, they are of the view that it deserves to be assisted in reducing its cost of production straightway. For this purpose they have decided that the import duty on gamma picoline, which is an essential raw material for this Industry should be remitted in full in the case of imports of this item from preferential sources and reduced to 10 per cent. *ad valorem* for imports from non-preferential sources. Government are also exploring the possibility of developing alternative and cheaper sources of supply for gamma picoline.

3. Other recommendations made by the Commission are:—

(a) The Drugs Controller, India, should make arrangements to test samples of INH made in the country by each of the licensed manufacturers (not only of the powder but also of the tablets) and take suitable steps to ensure strict adherence to BPC standards.

(b) Effective steps should be taken to regulate the processing charges and overheads recovered by producers of INH tablets, or alternatively, Government should arrange to procure INH powder from the cheapest source and manufacture and distribute the tablets under its own control.

4. Government accept recommendation (a) in principle. The Drugs Controller, India, is being asked to make arrangements for testing samples of INH (powder and tablets) made in the country by licensed manufacturers and will also take suitable steps to ensure strict adherence to approved pharmacopoeias.

5. As regards recommendation (b) in paragraph 3, Government accept the first alternative recommended by the Commission and suitable steps will be taken in due course to regulate processing charges and overheads recovered by the producers of INH tablets.

6. The attention of the industry is also drawn to the Tariff Commission's suggestion that if the price of gamma picoline declines sufficiently to eliminate the present disparity between the prices of this raw material and the finished product, the industry may apply for a review of its case.

ORDER

Ordered that a copy of the Resolution be communicated to all concerned and that it be published in the *Gazette of India.*

N. SUBRAHMANYAM, Jt. Secy.

Personnel of the Commission

SHRI B. N. ADARKAR, M.A. (CANTAB) ..... *Member.*

SHRI C. RAMASUBBAN ..... *Member.*

DR. S. K. MURANJAN, D.Sc. (LONDON) ..... *Member.*

Panel for the Inquiry

SHRI C. RAMASUBBAN.

DR. S. K. MURANJAN.

Secretary

SHRI S. K. BOSE, M.A., I.A.S.

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REPORT ON THE GRANT OF PROTECTION AND/OR ASSISTANCE TO THE ISONICOTINIC ACID HYDRAZIDE (ISONIAZID) INDUSTRY.

Origin of the case

1. An application for the grant of protection and assistance for the manufacture of isonicotinic acid hydrazide (known also as Isoniazid) was made to the Government of India in the Ministry of Commerce and Industry by Messrs. Sarabhai Chemicals, Baroda on 17th February, 1954 on the grounds that their cost of production of the drug was higher than the landed cost of the imported material, and that duties at rates varying from 27·3 per cent. *ad valorem* to 37·8 per cent. *ad valorem* had to be paid on the four important raw materials namely, gamma picoline, potassium permanganate, butyl alcohol and trichloroethylene. The Company suggested in their application that assistance to the industry may be given partly by regulating imports of the drug from foreign sources, and partly by waiving the duties on imports of the above mentioned raw materials which were utilised in the manufacture of the drug, and that protection may be given by imposition of duty at a rate based on the difference between the landed cost of the imported product and the fair *ex*-works price of the indigenous product. The Company's application was referred to the Commission under Section 11 of the Tariff Commission Act, 1951, by the Government of India in the Ministry of Commerce and Industry Resolution No. 1-T(12)/54, dated 13th November, 1954.

Terms of reference

2. Under Section 14 of the Tariff Commission Act, the Commission is to have, among other matters, due regard to:—

(a) the cost of production or manufacture in the principal growing, producing or manufacturing regions of India of the commodity produced by the industry claiming protection and the cost of which should be taken to be representative of the industry concerned;

(b) the approximate cost of production or manufacture in the principal growing, producing or manufacturing centres of foreign countries of the commodity which competes with the commodity produced by the industry claiming protection, if the determination of such cost is necessary for the purpose of any case;

(c) the approximate cost of import of any such competing commodity as is specified in clause (b);

(d) the price which may be deemed to be the representative fair selling price for growers, producers or manufacturers in India in respect of the industry claiming protection;

(e) the quantities of the commodity required for the consumption and the quantities thereof produced in or imported into India;

(f) the effect of protection, if granted on industry, on other industries, including cottage and other small-scale industries.

On the basis of its findings on the points referred to above, the Commission is to assess for the purpose of its Report:—

(a) the relative advantages enjoyed by the industry;
(b) the nature and extent of foreign competition;
(c) the possibility of the industry developing sufficiently within a reasonable time to be able to carry on successfully without protection;
(d) the likely effect of a protective tariff or other form of protection on the interests of the consumer or of the industries using the commodity in question, as the case may be; and
(e) the desirability or otherwise of protecting the industry in the public interest.

Section 14 further provides that in recommending the grant of protection to any industry the Commission may specify the conditions which shall be fulfilled before and after the grant of protection with particular reference to the following points, namely:—

(a) the scale of output;
(b) the quality of its products;
(c) the price charged for its products;
(d) the technological improvements required by the industry;
(e) the need for research in the process of manufacture;
(f) the training of officers, technicians and other persons employed in the industry;
(g) the use in the industry of indigenous products, whether raw or manufactured;
(h) the time within which an industry in respect of which protection has been given in advance of production, should start production; and
(i) any other matter in respect of which the Commission considers it necessary to specify conditions.

Method of inquiry

3.1. On 2nd June, 1955 the Commission issued a press note inviting firms, persons and associations interested in the manufacture, import or use of the drug to obtain copies of the relevant questionnaires from the office of the Commission and to submit replies thereto. A list of those to whom questionnaires were issued and of those from whom replies or memoranda were received is given in Appendix I. The Collectors of Customs and leading importers were requested to furnish information regarding the c.i.f. prices and landed costs of imported isoniazid. The Chief Industrial Adviser, Ministry of Commerce and Industry (Development Wing) was requested to furnish a detailed memorandum on the industry. The Directors of Industries of the States of Bombay and West Bengal were addressed for information relating to the manufacturing units situated in their States. The Drugs Controller (India) in New Delhi, and the Drugs Controller of Bombay State were requested to give their opinions on the quality of isoniazid and their views on the question of grant of protection to

the manufacturing industry. As the drug is utilised in the treatment of tuberculosis, letters were also addressed to some of the leading medical specialists engaged in the treatment of tuberculosis, Superintendents of Sanatoria and Hospitals, the Tuberculosis Adviser to the Government of India, the Anti-Tuberculosis Association, Bombay, and the Director of the Haffkine Institute, Bombay asking for their views on the application for protection and assistance to the industry. Shri S. S. Mehta, Technical Director (Chemicals) and Shri S. V. Rajan, Cost Accounts Officer visited the factory of Sarabhai Chemicals at Baroda on the 12th July, 1955 to examine the cost of production of isoniazid manufactured by them. A public inquiry was held at the Commission's office at Bombay on 25th July, 1955. A list of persons who attended the inquiry is given in Appendix II.

3.2. For the sake of brevity isonicotinic acid hydrazide (Isoniazid) will be referred to in the rest of this report as "INH" which is also in conformity with the abbreviation normally adopted by the medical profession.

Development of INH as a drug.

4.1. Isonicotinic acid hydrazide has been known as an organic chemical compound for about forty years but has come into prominence only since 1952 as a chemotherapeutic drug in the treatment of tuberculosis. The discovery of its specific properties as an anti-tubercular drug was made in U.S.A. simultaneously by E. R. Squibbs and Sons and Hoffman-La Roche. The dosage of the drug is in small quantities of about 100 milligrams per dose, and its administration is normally oral and in tablet form and occasionally through injection. The drug is manufactured as a powder, but its distribution to consumers is invariably in tablets. The clinical use of the drug by the medical profession is usually alongside streptomycin and the calcium or sodium salts of para-aminosalicylic acid (PAS) both of which are now accepted as curatives for tuberculosis. PAS was discovered in 1944 by a Danish Scientist Dr. Lehmann, and was imported for the first time into India in 1946. Between 1946 and 1952 it held a place as an effective drug for treating the disease. But since INH was discovered it has become less important in the curative treatment of tuberculosis.

4.2. INH was available only at very high prices during the years immediately following its discovery as an anti-tubercular drug. But there has been a gradual decline in its price as a result of its increased production undertaken in the U.S.A., Germany, Italy, Denmark and Switzerland, and the keen competition between the foreign companies engaged in the manufacture of the drug. In India, Sarabhai Chemicals were the first to start experimental production of INH on the basis of details of the process furnished by one of the two discoverers of its chemotherapeutic properties *viz.*, Squibbs with whom they have technical collaboration in the manufacture of various other products. Sarabhai's plant for regular production of INH was commissioned for use in 1953. At about that time or just prior thereto a few other units also took up its manufacture on experimental scale.

Present position of the industry including capacity and production

5.1. There are, at present, four units producing INH in the country. Brief particulars regarding them are furnished below.

5.2. *Sarabhai Chemicals, Baroda* is a proprietary concern belonging to M/s. Karamchand Premchand Ltd. which is a private limited company operating also as managing agents of the Ahmedabad Manufacturing and Calico Printing Co. Ltd. (Calico and Jubilee Mills). The authorised capital of Sarabhai Chemicals is Rs. 50 lakhs and the paid-up capital Rs. 24 lakhs. They are engaged in the manufacture of pharmaceutical products, their principal activity being in association with E. R. Squibbs and Sons of New York, U.S.A. Sarabhai Chemicals have been selling most of the INH produced by them in the form of tablets under the name of "NYDRAZID" which is a proprietary trade name owned by Squibbs and Sons. Experimental work in connection with INH was started in 1952 with a plant having a capacity of 5 lbs. per day and regular production in 1953 with an enlarged plant having a capacity of 20 lbs. per day. The present annual rated capacity of the factory is stated to be 6,000 lbs. The current value of the fixed assets employed in the production of INH is Rs. 1·08 lakhs.

5.3. *Albert David Ltd., Calcutta* was registered in Calcutta as a private limited company in 1933, and subsequently converted into a public limited company in 1947 for the manufacture of a number of chemical and pharmaceutical products. Its authorised capital is Rs. 19 lakhs, and the paid-up capital Rs. 12·09 lakhs. The present value of plant and machinery utilised for the intermittent manufacture of INH has been estimated at about Rs. 90,000. The present rated capacity is stated to be about 3,250 lbs. per annum.

5.4. *The Bengal Immunity Co, Ltd.*, a public limited company with an authorised capital of Rs. 50 lakhs, and paid-up capital of Rs. 9 lakhs has been carrying out production of INH on a pilot plant with a daily capacity of 5 lbs. and annual rated capacity of 1,500 lbs. The value of the plant and machinery utilised for production of the drug is estimated at Rs. 60,000.

5.5. *The Bengal Chemical and Pharmaceutical Works, Ltd.*, a public limited company with an authorised capital of Rs. 100 lakhs and a paid-up capital of Rs. 66·24 lakhs have also been carrying out production of INH on a pilot plant with a daily capacity of 5 lbs. and annual rated capacity of 1,500 lbs. The Company is unable to furnish the value of the plant and machinery utilised by it for production of INH.

5.6. A fifth unit, *Dumex Ltd.*, established in Bombay, expects to go into production of INH early next year. It is a private limited company registered in India in 1952 and has been engaged in the packaging of infant foods, tabletting and vial filling of antibiotics, drugs, etc. Dumex Ltd., has its principal office in Denmark and is owned by the East Asiatic Co. of Denmark. Dumex Ltd. (India), is a private limited company with an authorised and paid-up capital of Rs. 5 lakhs, almost wholly held by the East Asiatic Co. (India)

Ltd. Orders have been placed for plant and machinery for the manufacture of INH and parts of them have already been despatched by the suppliers. The value of the machinery and equipment is estimated to be about Rs. 2·6 lakhs. The proposed annual rated capacity of the plant is stated to be 13,200 lbs. Dumex claims to have the largest share of the market in India for PAS, streptomycin and INH, the last named product being sold by them in tablet form under the trade name of "ISONEX".

5.7.1 We give below particulars relating to the rated capacities of the units and their production:—

	Annual rated capacity (lbs.)	Production (in lbs.)			
		1952	1953	1954	1955 (Jan.-June)
Sarabhai Chemicals . .	6,000	322	1,733	656	833
Bengal Immunity Ltd. . .	1,500	..	..	30	112
Bengal Chemical & Pharmaceutical Works Ltd. . .	1,500	..	..	12	80
Albert David Ltd. . . .	3,250	301	..	..	154
TOTAL .	12,250	623	1,733	698	1,179

The present annual rated capacity of the four units put together for the production of INH powder is 12,250 lbs. When Dumex Ltd. come into production next year the annual rated capacity will be of the order of 25,450 lbs.

5.7.2. As stated above, Bengal Immunity Ltd. and Bengal Chemical and Pharmaceutical Works Ltd. employ only pilot plants for their production of INH. Except for very small quantities of powder sold in that form to other tablet makers by Sarabhai Chemicals, the production of the four units has been, up to now, utilised by them for the manufacture of their own brands of tablets. The equipment employed by all the 4 manufacturers in the production of INH can be used for manufacturing other products and processes. We are informed by Dumex Ltd. that the nature of the equipment which is being imported by them is also similar.

5.8. There are several importers of foreign INH powder who are engaged in tabletting the drug and distributing it in tablet form. The tablet makers whose names have been obtained by us are as under:—

1. Anglo French Drug Co.
2. Biddle Sawyer and Co.
3. Bombay Tablet Manufacturing Co.
4. Boots Pure Drug Co.
5. Cilag Hind Ltd.
6. Glaxo Laboratories, Ltd.
7. MAC Laboratories.
8. May and Baker Ltd.

9. Neo Pharma Ltd.
10 Nivea Pharmaceuticals Ltd.
11. Ranbaxy and Co.
12. Sanitex Chemical Industries Ltd.
13. Unichem Laboratories Ltd.

Most of the tablet makers have advised us that they have been using foreign INH powder as indigenous powder in bulk was not available to them at comparable prices.

Domestic demand

6.1. The estimates of current annual demand for INH which we have received vary from 6,600 lbs. to as high as 44,000 lbs. The Pharmaceutical Inquiry Committee in its Report of 1954 has estimated the country's annual requirements of the drug at 20,900 lbs. The Development Wing of the Ministry of Commerce and Industry has estimated the present consumption at 15,000 lbs. and future consumption at 20,000 lbs. per annum, while the Drugs Controller to the Government of India has estimated current requirements at 22,050 lbs. and future requirements in the course of the next three years at 29,400 lbs. Sarabhai Chemicals have estimated the future demand at 22,050 lbs. after taking into account such factors as the estimated number of tubercular patients receiving treatment, the average period of treatment, dosage etc.

6.2. Imports of INH during 1953 and 1954 were to the extent of 14,333 lbs. and 14,774 lbs. respectively. Imports were banned during the first half year of 1955, and no data are available regarding the actual quantities that might have been imported during that period through revalidation of previous licences. We were informed, however, that the quantity was likely to be negligible. Indigenous production during 1953, 1954 and the first half year of 1955 amounted to a total of 3,610 lbs. The total of imports and indigenous production for the 2½ years covering the period January, 1953 to June, 1955 amounted to 32,717 lbs. On this basis the annual consumption of INH works out to 13,080 lbs. As we have received no evidence to indicate that there has been any shortage in the supply of the product, we assume that the current annual demand is of the order of 13,000 lbs.

6.3. As regards the future, an attempt was made at the public inquiry to estimate the probable course of demand during the next three years on the basis of the quantity of INH required to treat a patient, the dosage per day and the estimated number of tubercular patients who are undergoing treatment. We gathered that informed estimates of patients suffering from tuberculosis in the country place the figure at about 25,00,000 of which only about 5,00,000 are reported to be actually receiving therapeutic treatment. The daily dose for each patient was stated to be 200 mgms., but information regarding the period of treatment indicated variations from 3 months to 9 months. We also understand that INH is not administered in all cases of tuberculosis, some patients being treated only with streptomycin, some with streptomycin and PAS and others with streptomycin and INH with or without PAS. As greater importance is being given to providing facilities for the treatment of persons suffering from tuberculosis it would be reasonable to assume that

there will be a continuous increase in the number of those receiving treatment. We are, therefore, inclined to agree with the Pharmaceutical Inquiry Committee's estimate of about 21,000 lbs. for the future and would add that the demand will increase as increased facilities for treatment of tubercular patients are provided.

Raw materials.

7.1. The principal raw materials used in the manufacture of INH are as follows:—

(i) Gamma picoline.
(ii) Potassium permanganate.
(iii) Absolute alcohol.
(iv) Hydrochloric acid.
(v) Sulphuric acid.
(vi) Ammonia.
(vii) Trichloroethylene.
(viii) Hydrazine hydrate.

Other raw materials which also go into the manufacture are activated carbon, butyl alcohol and gum acacia. It is possible to obtain hydrazine hydrate by treatment of hydrazine sulphate with an alkali or by using urea, costic soda, chlorine, sulphuric acid and lime. It is also possible to employ either or benzene in place of trichloroethylene which is used as a solvent.

7.2.1. Gamma picoline, which has assumed importance only after it was used as a starting material for producing INH, is not available in India. It is a by-product of the distillation of coal or bones. It can also be produced synthetically from pyridine which is a product of coal distillation. Although both gamma picoline and pyridine may be considered as potentially available in India from the distillation of coal, their economic production is not considered feasible as the volume of demand is too small to permit the installation of the elaborate fractionation equipment required. Gamma picoline bears an import duty of 27·3% *ad valorem* preferential and 37·8% *ad valorem* standard.

7.2.2. The following information regarding the imported price of gamma picoline since 1952 which was obtained by us at the public inquiry indicates that there has been a steady decline in the price of the product. This decline may be due to the increase in the volume of production overseas and greater competition among producers, and to the synthesis of gamma picoline from pyridine which might have resulted in considerable economies in production.

		Rs.	a.	p.	
1952	September	45	0	0	per lb.
	December	40	0	0	,,
1953	July	28	5	0	,,
	October	25	6	0	,,
1954	September	12	9	0	,,
	November	15	12	0	,,
1955	January	13	4	0	,,
	July	11	9	0	,,

7.3. Potassium permanganate is also imported from overseas and bears a duty of 31½ per cent. *ad valorem*. Indigenous production of this chemical was once established but is not being maintained.

7.4. Absolute alcohol, hydrochloric acid, sulphuric acid and ammonia are obtainable from indigenous sources.

7.5. Trichloroethylene is an imported material, used in many industrial applications as solvent. Ether or benzene which is available from indigenous sources can be used instead of trichloroethylene, but there is a preference to the latter product on account of its lower fire hazards. The duty on trichloroethylene is 27·3 per cent. *ad valorem* preferential and 37·8 per cent. *ad valorem* standard.

7.6. Hydrazine hydrate, is derived from the oxidation of ammonia or urea and is used for organic synthesis as a reducing agent or solvent. These uses, however, are not developed in India. Two of the manufacturers import it as such, whereas another expects to obtain the product from hydrazine sulphate and an alkali. Sarabhai Chemicals have installed the necessary equipment for its production from urea, caustic soda and chlorine. Urea is imported into the country (free of duty) mostly for use as a fertilizer, while the other two materials are obtainable from indigenous sources.

7.7. Sarabhai Chemicals have furnished the following statement showing comparative costs of raw materials as available to them in June, 1955 and as available in the U.S.A. at about the same time in order to bring out the handicap faced by the manufacturers of INH in India:—

Per lb.

Raw materials	Rate paid by Sarabhai Chemicals	Rate in the U.S.A.
	Rs. a. p.	Rs. a. p.
Gamma picoline	12 4 7	9 1 8
Potassium permanganate	1 7 0	1 0 11
Hydrochloric acid	0 3 9	0 2 0
Absolute alcohol	0 12 2	0 4 2
Sulphuric acid	0 2 10	0 0 10
Trichloroethylene	0 13 4	0 8 6
Ammonia	2 1 2	0 3 0
Active carbon	1 2 4	0 15 5
Butyl alcohol	2 2 3	0 11 7
Caustic soda	0 5 3	0 3 0
Clorine	0 5 3	0 2 3
Urea	0 5 0	0 4 8

We are informed that prices of most of the above materials in countries like Germany and Italy are even less than prices in the U.S.A. In addition to the handicap arising from the above there may be shortcomings from which the industry suffers arising from such factors as the employment of less economical process of manufacture and usage of materials involving higher conversion charges.

Quality of the indigenous product.

8. The consensus of opinion regarding the quality of indigenous INH is that it is as good as the imported product. The Central Drug Laboratory at Calcutta is reported to have tested samples of indigenous INH sometime ago and found them to conform to the standards

required. The Drugs Controller (India) has confirmed this opinion. INH has been included in the British Pharmacopia Codex, 1954, and according to the Drugs Controller the quality of INH, the manufacture of which has been licensed in the country, should now conform to that standard. When this issue was discussed at the public inquiry the view was expressed that the samples of the drug which were tested some time ago might have passed the tentative standards which had then been recognised, but may not conform strictly to BPC standards which have since taken precedence over them. We, therefore, recommend that the Drugs Controller should make arrangements to test samples of INH made in the country by each of the licensed manufacturers (not only of the powder but also of the tablets), and take suitable steps to ensure strict adherence to BPC standards.

Imports and import control policy.

9.1. Statistics of imports of INH are not at present recorded separately in the Accounts relating to the Foreign (Sea, Air and Land) Trade and Navigation of India. But figures relating to imports of drugs are recorded by officials of the Directorate General of Health Services, New Delhi, working under the control of the Drugs Controller (India). According to their records, imports of INH during 1953 and 1954 amounted to 14,333 lbs. and 14,774 lbs. respectively. These imports have been mostly from Denmark, Switzerland, West Germany and Italy.

9.2. INH is classified in the Import Trade Control Schedule (Part IV) under "Drugs and Medicines" in serial numbers 87 and 109. No specific licensing policy was announced for the drug prior to the period January-June, 1954. Its import was covered against licences issued for permissible "Drugs and Medicines" to the following extents:—

	Dollar area	Soft currency area
January-June, 1952 . .	75%	100%
July-December, 1952 . .	50%	80%
January-June, 1953 . .	75%	100%
July-December, 1953 . .	75%	100%

During the licensing periods January-June, 1954 and July-December, 1954 the import of INH was allowed on *'ad hoc'* basis. During the licensing period January-June, 1955 no provision was made for the grant of licences. Provision has since been made for the grant of *'ad hoc'* licences for actual users during the period July-December, 1955.

Existing rates of customs duty.

10. The Controller of Customs, Bombay has stated in his memorandum that (a) INH powder as well as tablets were assessed to duty at 37·8 per cent. *ad valorem* standard and 27·3 per cent. *ad valorem* preferential under item No. 28 of the Indian Customs Tariff Schedule upto 28th February, 1953; (b) subsequently, till 30th April, 1955 while INH powder was assessed to duty under item No. 28 at the above rates, INH tablets were assessed to duty under item No. 28A at 50 per cent. *ad valorem* standard and 40 per cent. *ad valorem* preferential; (c) from 1st May, 1955, however, both powder and tablets are being assessed to duty under item No. 28. We give below

extracts from the first schedule of the Indian Customs Tariff (Thirty-Ninth issue) relevant to items Nos. 28 and 28A.

Item No.	Name of article	Nature of duty	Standard rate of duty	Preferential rate of duty if the article is the produce or manufacture of			Duration of protective rates of duty
				The U.K.	A British Colony	Burma	
28	Chemicals, Drugs and medicines, all sorts not otherwise specified.*	Preferential Revenue.	Rate of duty actually charged at the time for such products of the U.K. or British colonial origin *plus* 10% *ad val.* plus 5% of the total duty.	20% *ad val.* *plus* 5% of the total duty.	26% *ad val.* *plus* 5% of total duty	10½% *ad val.*	
28A	Patent or proprietary medicines as defined in clause (d) of Section 3 of Drugs Act, 1940 (XXIII of 1940), not containing spirit and not otherwise specified.	Do.	50% *ad val.*	40% *ad val.*	40% *ad val.*	10% *ad val.*	

* These are GATT items.

C.i.f. prices and landed costs of imported INH powder.

11.1. A list of recent prices and landed costs of imported INH powder as furnished by certain importers and the Collector of Customs, Bombay is given in Appendix III. It will be seen from the list that the lowest price at which imported INH has come into the country *viz.*, Rs. 24/13/- per lb. relates to a consignment received in Bombay from Italy on 1st March, 1955. It was agreed at the public inquiry that Rs. 24/13/- should be assumed as the c.i.f. price on the basis of which the disadvantage suffered by the indigenous industry should be measured.

11.2. The price of INH powder has been steadily declining year by year since 1953 from about Rs. 120 to about Rs. 25 per lb. Importers are of opinion that the price is likely to remain steady at around the current level of Rs. 25 which has been in existence for some months. The following statement shows the fluctuations in

the c.i.f. prices of INH of foreign manufacture since 1952 as supplied by two importing concerns:—

(Per lb.)

Quarter ending	Bharat Drug House		Glaxo Laboratories	
	Max.	Min.	Max.	Min.
	Rs.	Rs.	Rs.	Rs.
December, 1952	119·20	68·40	88·69	79·82
March, 1952	67·00	60·61	60·47	57·82
June, 1953	62·92	54·88	..	54·42
September, 1953	..	42·55	..	..
December, 1953	..	..	..	42·33
March, 1954	..	..	..	..
June, 1954	33·44	31·81	31·75	28·67
September, 1954	..	..	27·21	25·05
December, 1954	..	24·94	..	..
March, 1955	..	..	..	27·76

Cost of production and fair ex-works prices of INH.

12.1.1. The cost of production and fair *ex*-works prices of INH powder and tablets at the factory of Sarabhai Chemicals was worked out by our Cost Accounts Officer whose report, which is not for publication, has been forwarded to Government as a confidential enclosure to this report. The Cost Accounts Officer's investigation covered the three years from 1952 to 1955 and the data collected by him for 1954-55 have been utilised by us to estimate the future cost of production of the product. Our estimate has been based on the following assumptions.

12.1.2. *INH Powder.*—Production has been assumed at 6,000 lbs. per annum which is the maximum achievable capacity of the factory. The consumption of raw materials has been estimated at the limits achieved by the Company in the past and prices calculated at rates ruling on the date of investigation. The costs of supervising staff and labour, power, fuel and steam have been calculated on the basis of past expenditure with due allowances for increased future requirements arrived at in consultation with the Company's technical staff and the Commission's Technical Adviser. Allocation for repairs and maintenance, consumable stores, works and general administrative establishments and other overheads, has been made by the Company as a percentage on the prime cost of manufacture *viz.*, direct materials, wages and salaries, packing materials, etc. In the absence of more specific data this method has been accepted by us as a measure of expediency. Future estimates for the above items of cost have been made by us in consultation with the Company's representatives. The Company pays royalty to E. R. Squibbs & Sons calculated on the net invoice sale

price of INH bulk and "NYDRAZID" tablets at 4 per cent. and 6 per cent. respectively. No such royalty is being paid by Bengal Chemicals or Bengal Immunity for producing INH; Dumex have also stated that they need not pay any royalty when they start manufacturing the product. We are, therefore, of opinion that royalty should not be included as an item of cost in the production of INH. Depreciation has been calculated at income-tax rates on the written down value of the assets specifically used for manufacture of INH amounting to Rs. 1·076 lakhs. As return at 10% on the specific assets would not provide an adequate margin of profit, we have calculated return at 10 per cent. on the cost of production. The fair *ex*-works price per lb. of INH powder arrived at on the basis of the above assumptions amounts to Rs. 55-6-3 as under:—

	Rs.
Cost of raw materials	39·763
Conversion charges	9·246
Depreciation	1·145
Packing cost	0·200
Cost of production	50·354
Add—Profit at 10% on above cost of production	5·035
Fair *ex*-works price	55·389 or Rs. 55-6-3

12.1.3. It will be observed from paragraph 1 of this report that Sarabhai Chemicals' application for protection and assistance to the industry included a request for waival of the duties on imported raw materials *viz.*, gamma picoline, potassium permanganate, butyl alcohol and trichloroethylene. Butyl alcohol is now being obtained from local sources. As regards the other three materials the duty elements which are included in the cost of raw materials for INH powder per lb. are as follows:—

	Rs.
Gamma picoline	3·5
Potassium permanganate	1·9
Trichloroethylene	0·6
	Rs. 6·0

On the basis of duty-free import of the above three materials the fair *ex*-works price per lb. of INH powder would amount to Rs. 48-12-7 as under:—

	Rs.
Cost of materials	33·763
Conversion charges	9·246
Depreciation	1·145
Packing cost	0·200
Cost of production	44·354
Add—profit at 10%	4·435
Fair *ex*-works price	48·789 or Rs. 48-12-7

Gamma picoline is the only material which is exclusively used in the production of INH. The other materials are used in the manufacture of other products besides INH and it is, therefore, not possible to consider the application for waival of duty leviable on them. It is, however, possible to consider exemption from duty for gamma picoline only, but the desirability of doing so depends on whether or not, assistance in this form is likely to be of any material help in developing this industry. Without anticipating our conclusion on the latter issue we have worked out the fair *ex*-works price of INH powder on the basis of duty-free import of gamma picoline. The fair *ex*-works price on this basis comes to Rs. 51-8-7 per lb.

12.1.4 We have also obtained from Dumex Ltd. an estimate of their costs of production of INH on the basis of the data collected by them in experimental production on which they have been engaged for some time. As this experimental production has been conducted in a laboratory the figures furnished by Dumex cannot be treated on par with those relating to Sarabhai Chemicals. However, we have made use of the former for the limited purpose of comparing them with those relating to the latter and are satisfied that no noticeable disparities exist between the two. The fair *ex*-works cost of INH which we have arrived at for Sarabhai Chemicals has thus been adopted by us as being representative for the industry as a whole.

12.1.5. *INH Tablets.*—We have also estimated the total cost of 'Nydrazid' tablets produced by Sarabhai Chemicals (from powder of their own manufacture) in packings of 100 tablets and 1,000 tablets containing 50 milligrams or 100 milligrams each as under. The total cost includes selling and distribution overheads but not profit.

(In rupees)

Contents of each packet	50 mgms. each		100 mgms. each	
	100	1,000	100	1,000
Cost of materials . . .	0.593	5.930	1.183	11.837
Packing materials . . .	0.260	0.560	0.320	0.730
Cost of labour	0.051	0.311	0.051	0.333
Overheads (including royalty) .	0.371	2.603	0.543	4.025
TOTAL COST .	1.275	9.404	2.097	10.925
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
i.e.	1 4 5	9 6 8	2 1 7	16 14 10
Gross selling price . . .	1 13 6	13 13 0	2 12 0	21 9

12.2. We have also obtained similar data for manufacturing tablets from imported INH powder from two of the tablet-makers,

the details of which we give below for comparative purposes. The producers have been described below as A and B.

(In rupees)

Contents of each packet	50 mgms. each				100 mgms. each			
	100		1,000		100		1,000	
	A	B	A	B	A	B	A	B
Cost of materials	0.458	0.427	4.599	4.318	0.917	0.813	9.198	8.219
Packing materials	0.234	0.339	0.870	0.765	0.234	0.302	0.870	0.771
Cost of labour	0.042	0.073	0.156	0.349	0.042	0.073	0.156	0.349
Overheads	0.448	0.656	3.578	4.828	0.609	0.854	5.312	6.510
TOTAL COST	1.182	1.495	9.203	10.260	1.802	2.042	15.536	15.849
	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
i.e.	1-2-11	1-7-11	9-3-3	10-4-2	1-12-10	2-0-8	15-8-7	15-13-7
Gross selling price	1-14-0	1-8-0	12-0-0	11-0-0	2-14-0	2-3-4	20-0-0	17-0-0

Selling prices of INH tablets.

13.1. The following statement shows the comparative selling prices of INH tablets made by Glaxo Laboratories, Dumex Ltd., and Sarabhai Chemicals during the quarters ended December, 1952 to June, 1955.

(Per tin of 1,000 tablets of 50 mgms. each)

Quarter ending	Glaxo Labs. Bombay	Dumex Ltd. Bombay	Sarabhai Chemicals, Baroda
	Rs. a. p.	Rs. a. p.	Rs. a. p.
December, 1952	39 0 0	45 15 0	..
March, 1953	27 0 0	27 10 0	28 2 0
June, 1953	27 0 0	27 10 0	28 2 0
September, 1953	20 0 0	20 8 0	23 0 0
December, 1953	17 0 0	20 8 0	23 0 0
March, 1954	17 0 0	16 0 0	20 8 0
June, 1954	17 0 0	16 0 0	20 8 0
September, 1954	12 0 0	12 0 0	17 0 0
December, 1954	12 0 0	12 0 0	13 13 0
March, 1955	11 0 0	12 0 0	13 13 0
June, 1955	11 0 0	12 0 0	13 13 0

The INH tablets sold by Glaxo and Dumex are made exclusively from imported INH powder, while those sold by Sarabhai Chemicals are made largely from indigenous INH powder and partly from imported powder.

13.2. The figures given in the above statement are net trade prices. Retail prices are not fixed by the firms. The discounts allowed by the above firms are as follows:—

Glaxo Laboratories.—Wholesalers and retailers are allowed to fix their own prices. Specially low rates are quoted for Government tenders.

Dumex Ltd.—Sub distributors are allowed discount of 7 per cent. on supplies made to the trade and hospitals, and 12% on supplies made to doctors.

Sarabhai Chemicals.—Sales are made through their own sales organisation. Discounts range from 2½ per cent. to 5 per cent. according to amount of orders. Stockists are allowed a commission of 2½ per cent. and turnover year end bonus of 2½ per cent.

13.3. The selling prices of tablets as furnished at the public inquiry by some of the tablet makers are as follows:—

Per 1,000 tablets.

	50 mgm.	100 mgm.
	Rs. a. p.	Rs. a. p.
Dumex Ltd.	12 0 0	20 0 0
Glaxo Laboratories Ltd.	11 0 0	17 0 0
Sarabhai Chemicals	13 13 0	21 9 0
May and Baker	14 4 0	N.A.
Cilag-Hind	12 15 0	N.A.

Comparison of fair ex-works price of indigeneous INH powder with the landed cost of imported product.

14.1. The following statement gives a comparison of the c.i.f. price and landed cost *ex*-duty of imported INH powder with the fair ex-works price of the product manufactured by Sarabhai Chemicals. The fair *ex*-works price includes duty payable on Gamma picoline as raw material.

	Rs. a. p.
1. C.i.f. price	24 13 0
2. Clearing charges	0 10 0
3. Duty @ 37·8%	9 6 0
4. Landed cost with duty	34 13 0
5. Landed cost without duty	25 7 0
6. Fiar *ex*-works price of INH at Sarabhai Chemicals	55 6 3
7. Excess of fair *ex*-works price over landed cost without duty (6—5)	29 15 3
8. The above excess as a percentage of c.i.f. price (7 to 1)	121%

14.2. If no account is taken of the duties on gamma picoline, potassium permanganate and trichloroethylene, the fair *ex*-works price of indigenous INH powder will work out to Rs. 48-12-7 per lb. (*vide* para. 12.1.3), and a duty of 94 per cent. will be required to protect it against the imported product. Likewise, if no account is taken of the duty on gamma picoline alone, the fair *ex*-works price of indigenous INH powder will work out to Rs. 51-8-7 per lb. and the duty indicated would be 105 per cent.

Examination of the claim of the industry to protection and assistance.

15.1. The only advantages enjoyed by the INH industry are that the process of manufacture has been established, the technical personnel engaged in production have learnt the technique and the quality of the indigenous product has been found to be acceptable. As against these, however, the industry is subject to certain very serious disadvantages. The principal raw material required for the manufacture of INH, namely gamma picoline, is not available in the country, each one of the other raw materials costs more in India than in foreign countries and the total cost of raw materials alone, without taking into account the duties on gamma picoline, potassium permanganate and trichloroethylene is 136 per cent. of the c.i.f. price of imported INH powder. Likewise, the total cost of raw materials without taking into account the duty on gamma picoline is 146 per cent. of the c.i.f. price. So long as the present disparity between the cost of raw materials and the c.i.f. price of imported INH continues, no amount of reduction in its conversion costs which the industry can achieve by its own efforts will enable it to compete with imports. The industry has no plans to produce the principal material, gamma picoline, the domestic production of which is unlikely to be economic at the present stage. The price of the imported gamma picoline has declined steadily during the last four years, from Rs. 45 per lb. in 1952 to Rs. 11/9/- at present, but the price of foreign INH powder has also declined simultaneously from Rs. 120 per lb. in 1952 to Rs. 24/13/-. The disparity between the import prices of the raw materials and the finished product has thus continued. The position may change if the price of gamma picoline declines sufficiently to eliminate this disparity, but on present indications there appears no prospect of the industry being able to carry on successfully without protection within a reasonable time.

15.2. We have to examine whether it is in the national interest to grant protection to this industry, despite the considerations mentioned above. While it is no doubt desirable to develop the synthetic drug industry in the country, INH can hardly be regarded as a suitable starting point for such development. The synthetic drug industry is part of the synthetic organic chemical industry and the development of both is linked with that of the coal tar distillation industry. The cost of production of many of the synthetic drugs is high in this country, because some of the essential raw materials, which are ultimately derived from coal tar distillation, have to be imported. In order to overcome this handicap, the development of the synthetic drug industry has to be so planned as to pave the way for the eventual production of the essential raw materials. The production of these materials calls for heavy capital investment and advanced technical knowledge and gives rise to several by-products.

Consequently, only those materials can be produced economically which are required in sufficiently large volume and for the by-products of which also there is sufficient demand in the country. If therefore, the production of synthetic drugs is to be duly integrated with that of raw materials, the drugs selected for manufacture should be such that either there is already a large demand for the raw materials required for them or that their manufacture is likely to create such demand. The first of these conditions would be satisfied by selecting drugs derived from the same materials as are used for the manufacture of dyestuffs, plastics or other products or from the by-products of such materials. The second would be satisfied by selecting several allied drugs requiring the use of the same materials. INH fulfils neither of these conditions. Its principal raw material, gamma picoline, has no other use at present, and the total quantity of gamma picoline required for INH is too small to make its production economic. Indeed, a drug which taken by itself is uneconomic to produce may become economic if its production is undertaken in conjunction with other allied products, and this applies to INH also. It is quite conceivable that the difficulties which are now standing in the way of successful production of INH may disappear in course of time through external economies arising from the development of the synthetic drug industry or other industries. For the present, however, we see no integral connection between INH and any other major product manufactured in the country either by the INH producers themselves or by others, such as would give rise to such external economies whether by way of production of raw materials or otherwise. We have, therefore, come to the conclusion that INH can make no material contribution to the development of the synthetic drug industry at the present stage.

15.3. It may be argued that since INH is a life saving drug, the country should be made self-sufficient in respect of it as early as possible. We do not subscribe to the view that self-sufficiency is desirable at any cost. Secondly the country cannot become self-sufficient in respect of INH so long as the principal materials required for its manufacture have to be imported.

15.4. Further, the possible benefits to the national economy through the development of this industry have to be weighed against the sacrifice which has to be imposed on the consumer for an indefinite period. If the industry is granted protection in any form other than a subsidy, an additional burden will be imposed on tubercular patients. Since the chief handicap of the industry arises from the high cost of imported materials, subsidy is not a proper form of protection. The protective duty required on the other hand, is as high as 105 per cent., even if imports of gamma picoline are exempted from duty. The burden on the consumer will not be much less, if protection is granted by means of import control without raising the import duty, because if the protection is to be effective, the price of the domestic product must rise sufficiently to cover the fair ex-works price, which is 205 per cent. of the landed cost ex-duty of the imported product, and the price of the imported product also cannot remain at the present level if its supplies are restricted as they must be, if the protection is to be effective. Persons suffering from tuberculosis have often to remain out of work, without their normal

income, and therefore, dependent on other people for long and indefinite periods. It would be contrary to social justice to make any addition, *however small,* to their already heavy burden. Any scheme of economic development which requires taxing of so vulnerable a class of consumers as tubercular patients deserves to be rejected on that ground alone, but as explained above, INH is not even a sound proposition from the stand point of developing the synthetic drug industry and there is, therefore, even less justification for increasing the burden on the consumers for the sake of protecting it.

15.5. The issue may be considered from yet another angle. INH producers can sell their product either in bulk to other tablet makers or in the form of tablets. It will be observed from the data regarding the cost of production of INH tablets given in paragraphs 12.1.5 and 12.2 above that there is a wide margin between the cost of INH powder and that of INH tablets in the case of all manufacturers. So far as bulk sales are concerned, there is no way to widen the market for indigenous INH powder except by restricting imports of INH powder or by imposing a sufficiently heavy duty on imported INH powder to equate its landed cost with the fair ex-works price of indigenous powder. In view of the high margin between the prices of powder and tablets, it may appear that tablet makers may be able to put up with a large increase in the cost of INH powder (on account of either a heavier duty on imported powder or the higher price of indigenous powder which they could be forced to purchase through import control) without making any appreciable increase in their selling prices of tablets. This, however, assumes that the processing charges currently recovered by tablet makers and overheads incurred by them are capable of substantial reduction. If this assumption is correct, we think that Government have three alternatives open to them: (a) to try to compel the tablet makers to reduce their processing charges and overheads and thus lower their selling prices of tablets, (b) to make arrangements for import of INH in bulk and its processing into tablets under Government control, or (c) to mop up a part of the surplus profits of tablet makers by levying a heavy duty on imported INH powder. We are not in favour of the third alternative, as it would have the effect of continuing the present margin between the prices of INH powder and INH tablets, whereas it is necessary, in the interest of tubercular patients, to reduce the margin as much as possible. The first two alternatives will benefit those that suffer from tuberculosis, but not the domestic industry, since they involve no increase in the import duty on INH powder and no restrictions on its imports. Nevertheless, we prefer the first two alternatives, since the advantages from developing this industry have not been found to be so important as to deserve precedence over the interests of persons afflicted by tuberculosis.

15.6. The industry's request for exemption of Gamma picoline from import duty may now be considered in the light of the facts given above. Its request for duty free imports of other raw materials has been dealt with in paragraph 12.1.3. Exemption of gamma picoline from import duty can only help to reduce the gap between the fair ex-works price of indigenous INH powder and the landed cost ex-duty of imported INH powder by 16 per cent.

whereas the total gap to be bridged is 121 per cent. This particular measure, therefore, will not be effective in promoting the development of the domestic industry, unless it is combined with other measures like protective tariffs, import control or a subsidy, which we do not recommend. On the other hand, it will encourage continued misdirection of resources. We are, therefore, unable to support the request.

15.7. Accordingly, we have come to the conclusion that no case has been made out for grant of protection to this industry, whether by way of protective tariffs, import control or a subsidy. If the price of gamma picoline declines sufficiently to eliminate the present disparity between the prices of this raw material and the finished product, the industry may apply for a review of its case. We recommend, further, that effective steps should be taken to regulate the processing charges and over-heads recovered by producers of INH tablets, or alternatively, Government should arrange to procure INH powder from the cheapest source and manufacture and distribute the tablets under its control.

Summary of conclusions and recommendations.

16. We give below a summary of our conclusions and recommendations:—

(1) The current annual demand for INH is about 13,000 lbs. The future annual demand is likely to be about 21,000 lbs. The future demand will increase as increased facilities for treatment of tubercular patients are provided. (Paragraphs 6.2 and 6.3).

(2) The quality of indigenous INH is as good as that of the imported product. (Paragraph 8)

(3) The Drugs Controller should make arrangements to test samples of INH made in the country by each of the licensed manufacturers (not only of the powder but also of the tablets) and take suitable steps to ensure strict adherence to BPC standards. (Paragraph 8)

(4) The INH industry is dependent on imports of gamma picoline and certain other materials the total cost of which exceeds the landed cost (ex-duty) of imported INH powder, even when no account is taken of the import duty on gamma picoline. The industry has no plans for manufacture of gamma picoline and it, therefore, affords no promise of being able to carry on successfully without protection within a reasonable time. Subsidy is not a proper form of protection for this industry, because its chief handicap arises from the high cost of imported materials. Moreover, any possible benefit to the national economy from the development of this industry is far outweighed by the consideration that the burden of protection in any form other than a subsidy has to be borne by sufferers from tuberculosis who are among the most vulnerable sections of the community. No case has, therefore, been made out for grant of protection to this industry. (Paragraph 15.7)

(5) Effective steps should be taken to regulate the processing charges and overheads recovered by producers of INH tablets or alternatively, Government should arrange to procure INH powder from the cheapest source and manufacture and distribute the tablets under its own control. (Paragraph 15.7)

Acknowledgements

17. We desire to express our thanks to the producers, importers, and consumers for furnishing us with valuable information and giving evidence before us. Our thanks are also due to Dr. I. D. Killawala (representing the Group of T.B. Hospitals in Bombay) and the representatives of Government Departments concerned for their assistance in connection with this inquiry.

C. RAMASUBBAN, *Member.*

S. K. MURANJAN, *Member.*

S. K. BOSE, *Secretary.*

Bombay, dated 30th August, 1955.

APPENDIX I

(*Vide* PARAGRAPH 3.1)

List of firms to whom the Commission's questionnaires were issued and from whom replies were received

*Indicates those who replied.

Producers

*1. Sarabhai Chemicals, Post Box 31, Wadi Wadi, Baroda.

*2. Albert David Ltd., 15, Chittaranjan Avenue, Calcutta-13.

*3. Bengal Immunity Co., Ltd., 153, Dharamtala Street, Calcutta-13.

*4. Bengal Chemical and Pharmaceutical Works Ltd., 164, Maniktala Main Road Calcutta-11.

*5. Dumex Limited, Wavell House, Ballard Estate, Bombay-1.

Importers and/or Tablet Makers

1. Chowgule & Co. (Hind) Ltd., India House, Fort St., Bombay-1.

2. Shantilal Kantilal & Co., Mangaldas Road, Bombay-2.

3. Ranbaxy & Co. Ltd., P.O. Box No. 104, New Delhi.

*4. G. Loucatas & Co., Mercantile Chambers, Ballard Estate, Bombay

*5. Sanitex Chemical Industries Ltd., Chemical Industries P.O., Industrial Area Gorwa Road, Baroda-3.

6. Atul Drug House, M. J. Building, 12, Champa Street, Bombay-2.

7. Gujarat Pharmaceutical and Chemical Works, Ahmedabad.

8. Fairdeal Corporation Ltd., Lakshmi Building, Sir P. M. Road, Bombay.

9. Albert David Ltd., 15, Chittaranjan Avenue, Calcutta-13.

10. Uni Chem. Laboratories, 22, Bhulabhai Desai Road, Bombay-26.

*11. Dumex Ltd., Wavell House, Graham Road, Ballard Estate, Bombay.

12. J. J. Shah & Bros., Mool Chand Mansion, Bombay.

*13. Glaxo Laboratories (India) Ltd., Worli, Bombay-18.

*14. Pannalal Bros., 44/45, Ezra Street, Calcutta.

*15. Kanchanlal Vadilal & Co., Mangaldas Road, P.O. Box No. 2223, Bomb ay-2

16. N. Jivanlal & Co. Ltd., Princess Street, Bombay-2.

*17. MAC Laboratories, Ltd., Great Social Building, Sir P. M. Road, Bombay-1

18. G. Bock & Co., Shale Building, Bank Street, Bombay.

*19. Biddle Sawyer & Co. (India) Ltd., 25, Dalal Street, Fort, Bombay.

20. Martin & Harris Ltd., Savoy Chambers, Wallace Street, Bombay-1.

21. Grahams Trading Co. (India) Ltd., 310/311, Linghi Chetty Street, Madras

22. Pharma Trading Co. Ltd., 3, 4 & 5, Lindsay Street, Calcutta-16.

*23. Cilag—Hind Ltd., Meher House, 15, Cawasji Patel Street, Bombay-1.

24. Ciba Pharma Ltd., Esplanade House, Waudby Road, Bombay.

*25. Nivea Pharmaceuticals Ltd., Netaji Subhas Road, Calcutta-1.

26. May and Baker (India) Ltd., Karimjee House, Sir P. M. Road, Bombay-1.

*27. Anglo French Drug Co. (Eastern) Ltd., 18, Tardeo Road, Bombay-17.

*28. Kantilal Manilal & Co., 16, Princess Street, Bombay-2.

*29. Voltas Ltd., Volkart Building, Graham Road, Ballard Estate, Bombay-1.

*30. Boots Pure Drug Co. (India) Ltd., Asian Building, Nicol Road, Ballard Estate Bombay-1.

31. Oriental Pharmaceutical Industries Ltd., 64-66, Tulsi Pipe Road, Mahim, Bombay-16.

*32. Bharat Drug House, Shree-Jee Bhuvan, Mangaldas Road, Bombay-2.

33. All India Importers' Association, Churchgate House, Veer Nariman Road, Bombay-1.

34. Standard Pharmaceutical Works, 67, Dr. Suresh Sarkar Road, Calcutta-14.

Consumers

1. Chemical, Industrial & Pharmaceutical Laboratories Ltd., 289, Bellasis Road, Byculla, Bombay.

*2. Zandu Pharmaceutical Works Ltd., Gokhale Road, South, Bombay-28.

*3. Albert David Ltd., 15, Chittaranjan Avenue, Calcutta-13.

*4. Neo-Pharma Ltd., Kasturi Buildings, Jamshedji Tata Road, Churchgate Reclamation, Bombay-1.

5. Kumudsankar Ray Tuberculosis Hospital, Jadavpur, Calcutta-32.

*6. S. B. Dey Sanatorium, Kurseong, Darjeeling

7. Itki Sanatorium, Itki (Bihar).

*8. Union Mission Tuberculosis Sanatorium, Arogyavaram, near Madanpalle, Chittoor District (S.I.)

9. Government Tuberculosis Institute, Madras.

10. Government Tuberculosis Hospital, Madras.

11. Government Tuberculosis Sanatorium, Tambaram, Madras.

12. Government Headquarters Hospital, Coimbatore (S. India).

13. Government Headquarters Hospital, Calicut (South India).

*14. R. M. Hospital, Tanjore (S. India).

15. Government Headquarters Hospital, Tiruchirapalli (S. India).

16. Erskine Hospital, Madurai, (S. India).

17. Government King George Hospital, Vishakhapatam, (S. India).

18. Coimbatore District Jubilee Tuberculosis Sanatorium, Perundurai, Coimbatore District, South India.

19. Visrantipuram Sanatorium, Rajahmundary (S. India).

*20. Government General Hospital, Madras.

21. Santosham Memorial Tuberculosis Sanatorium, Tambaram, Madras.

*22. Government Wellesley Tuberculosis Sanatorium, Bellary (S. India).

23. Rajaji Tuberculosis Sanatorium, Tiruchirapalli (S. India).

*24. Bel-Air Sanatorium, Dalkeith, Panchgani (via Poona).

25. Hillside Sanatorium, Vengulla.

*26. Wanless Tuberculosis Sanatorium, Wanlesswadi.

27. Group of T. B. Hospitals, Jerbai Wadia Road, Opp. Christian Cemetry, Sewri, Bombay-15.

*28. Salvation Army Emery Hospital, Anand, Kaira District.

29. Talegaon General Hospital & Convalescent Home, Talegaon.

30. Shree Padmavati Sanatorium, Baroda.

*31. Lady Linlithgow Sanatorium, Kasauli.

32. Lady Irwin Sanatorium, Jubar.

33. King Edward Sanatorium, Dharampore.

34. Victoria Jubilee Hospital, Amritsar.

*35. R. B. Sir Gujarmal Kesradevi Tuberculosis Sanatorium Amritsar.

36. King Edward VII Sanatorium, Bhowali.

37. King George Medical College Hospital, Lucknow.

38. Patna Medical College Hospital, Patna.

39. Tuberculosis Clinic, Nagpur.
40. Tuberculosis Clinic, Jubbulpore.
41. Tuberculosis Sanatorium, Pendra Road.
*42. Reid Provincial Chest Hospital, Shillong.
*43. Silver Jubilee Tuberculosis Hospital, Kingsway, Delhi-9.
*44. Tuberculosis Clinic, Queen's Road, Delhi.
45. New Delhi Tuberculosis Clinic, Irwin Hospital, New Delhi.
*46. Rama Krishna Mission Free Tuberculosis Clinic, Arya Samaj Road, Karol Bagh, Delhi-5.
*47. Madar Union Sanatorium, Madar, Ajmer.
48. Government T. B. Clinic, Mandi (Himachal Pradesh).
49. Government T. B. Clinic, Mahasu, Mashobra (Himachal Pradesh).

NOTE.—Numbers 1 to 4 represent tablet makers.

APPENDIX II

(Vide PARAGRAPH 3·1)

List of persons who attended the Commission's public inquiry on 25th July, 1955

Producers

1. Shri N. R. Nadkarni
2. Shri P. V. Kale
3. Dr. R. B. Contractor
4. Shri C. V. S. Narayanan

Representing Sarabhai Chemicals, Post Box 31, Wadi, Baroda.

5. D U. P. Basu — Representing Bengal Immunity Co Ltd., 153, Dharamtala Street, Calcutta-13.
6. Shri S. Basu — Representing Bengal Chemical and Pharmaceutical Works Ltd., 164, Maniktala Main Road, Calcutta-11.
7. Mr. L. Toft — Representing Dumex Ltd., Wavell House, Ballard Estate, Bombay-1.

Importers and/or tablet makers

1. Mr. E. Woods
2. Shri Keith Roy

Representing Glaxo Laboratories, Worli, Bombay-18.

3. Shri K. M. Shah — Representing Bharat Drug House, Devkaran Mansion, Mangaldas Road, Bombay-2.
4. Dr. N. M. Shah — Representing Cilag-Hind Ltd., Meher House, 15 Cawasji Patel Street, Bombay-1.
5. Shri B. M. Shah — Representing Kanchanlal Vadilal & Co., Princess Street, Mangaldas Road, P.O. Box No. 2223, Bombay-2.

Consumers

6. Dr. I. D. Killawala — Representing Group of T. B. Hospitals, R.P.T.B. Hospital Compound, Sewri, Bombay-15.

Government Officials

1. Dr. D. Ramaswamy, Assistant Development Officer, Ministry of Commerce & Industry (Development Wing), New Delhi.

2. Shri V. A. Padval, Assistant Drugs Controller (India), New Custom House, Ballard Estate, Bombay-1.

3. Dr. J. D. Joshi, Assistant Director of Industries (Chemical), Office of the Director of Industries and Statistics Authority, Old Custom House Yard, Bombay-1.

4. Shri S. C. Shah, Assistant Drugs Controller, Bombay State, 127, Mahatma Gandhi Road, Bombay-1.

APPENDIX III

(*Vide* PARAGRAPH 11.1)

Statement showing latest c.i.f. prices, landed costs and selling prices of imported INH powder

(Figures per lb.)

Serial No.	Source of information	Origin of import	Date of import	Type and Specification	C.i.f. prices	Customs Duty		Clearing charges	Landed Cost	Selling price	Remarks
						Rate %	Amount				
1	2	3	4	5	6	7	8	9	10	11	12
					Rs. a. p.		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	
1	Bharat Drug House, Bombay.	Italy	Oct. 54	Powder	24 15 0	37 4/5	9 7 0	0 5 0	34 11 0	39 15 0 *49 14 0	*From Feb. '55.
2	Dumex Ltd., Bombay	Denmark	3-11-54	Powder	29 7 0	27 4/5	11 5 0	0 1 0	40 13 0	..	
3	Sanitex Chemical Industries Ltd., Baroda.	Hongkong	10-11-54	Powder	35 6 0	27 3/10	9 11 0	2 9 0	47 10 0	..	
4	Kanchanlal Vadilal & Co., Bombay.	Italy	4-8-54	Powder	30 4 0	37 4/5	11 7 0	0 11 0	42 6 0	43 1 0	
		Germany	30-9-54	Powder	25 7 0	37 4/5	9 10 0	0 5 0	35 6 0	43 1 0	
5	Glaxo Laboratories, Bombay.	W. Germany	30-11-54	Crystalline powder.	25 2 0	37 4/5	9 9 0	0 1 0	34 12 0	..	
6	Biddle Sawyer & Co., Bombay.	W. Germany	24-12-54	Powder	25 2 0	37 4/5	9 8 0	0 2 0	34 12 0	..	
			26-4-55	Powder	25 4 0	27 3/10	6 14 0	0 1 6	32 3 6	..	
7	MAC Laboratories Ltd., Bombay.	Italy	1-3-55	Powder	24 13 6	37 4/5	9 6 0	0 11 0	34 14 6	..	
8	Cilag-Hind Ltd., Bombay	Switzerland	7-2-55	Powder	32 7 0	37 4/5	12 4 0	0 5 0	45 0 0	56 11 0	
9	Kantilal Manilal & Co., Bombay.	Germany	Jan. 55	B. P. Powder.	25 2 0	37 4/5	9 9 0	0 0 6	34 11 6	39 1 6	
10	Anglo-French Drug Co. Ltd., Bombay.	Italy	12-7-54	Powder	33 8 0	37 4/5	12 11 0	0 4 0	46 7 0	..	
11	Collector of Customs, Bombay.	W. Germany	15-10-54	Powder	25 1 0	37 4/5	9 8 0	0 10 0	35 3 0	..	
		Italy	1-3-55	Powder	24 13 0	37 4/5	9 6 0	0 10 0	34 13 0	..	

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